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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,542	12/23/2003	Mamoru Miyachi	107156-00217	5783
4372	7590	12/15/2005	EXAMINER MULPURI, SAVITRI	
ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			ART UNIT 2812	PAPER NUMBER

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/743,542	MIYACHI ET AL.	
	Examiner	Art Unit	
	Savitri Mulpuri	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/2003, 4/2004</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

This action is in response to the applicant's communication of electing process claims 9-11 on 11/29/2005.

#### ***Claim Objections***

Claims 9-13 are objected to because of the following informalities: "intermediate" is incomplete, it is suggested to add " structure" or "body". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

Claims 9-10, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In bonding step the word "close" is indefinite in scope of the claim.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofstetter et al (US 6,136,623) in combination with Cheung et al (us 6,420,242) and Ikeda et al.(6,956,322)

Hofstetter et al disclose a method of making a first laser device with waveguide structures having a first laser beams of different wavelengths, comprising the steps of a step of stacking thin films of group III nitride compound semiconductor from the group consisting of Al, Ga, In, N on a sapphire substrate as first step (see Fig.4 and fig. 6).

Hofstetter et al discloses a method of making a second laser with waveguide structures by growing a second stack of thin films of group III-CV compound semiconductor s containing the at least elements of Al, Ga, In, As, ,P , Sb on a GaAs substrate as a second process step

Hofstetter et al further discloses third step of bonding the both the sapphire and GaAs substrates to form bonded structure by facing laser waveguide ridge structures "522,524,518,520" , through metal adhesion layers "506,508,510" and "512,514,516", where both first and second laser structures with waveguides by facing or opposing each other (see fig.8 and related description). Hofstetter et al teach dividing the lasers where adhesion layer is not present (see fig. 1, fig.2 and fig. 6 and fig.6 and fig.8). Hofstetter et al teach different variations IR/IR or red/blue quadspot etc,

Hofstetter et al do not disclose fourth step of irradiating the junction between sapphire substrate and the first laser with a light transmitted through the sapphire

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substrate absorbed by the group III nitride compound semiconductor, so that the laser in the vicinity of the junction is decomposed and portion of the substrate, where irradiation was performed is broken and fifth step of removing the sapphire substrate to expose the first laser part.

Cheung et al discloses irradiating the sapphire '104' to decompose the GaN layer '118' and removing the sapphire to expose the GaN layer '102' (see abstract, fig.4 and related description). It would have been obvious to one of ordinary skill in the art to expose the bonded sapphire substrate in the invention Hofstetter et al to laser irradiation and then removing the sapphire substrate because such process can result light weight opto electronic structures for the display devices and also economical because sapphire can be reused to grow GaN layers.

Neither Hofstetter et al nor Cheung do not teach transferring the bonded and cleaved substrate to the support substrate. Ikeda also teaches bonding the sapphire and GaAs substrate to then transferring the bonded substrate to support substrate '11' (see abstract Fig. 4 and related description). It would have been obvious to one of ordinary skill in the art to form the stacked light emitting device with multiple wavelengths in an array. It would have been obvious to one of ordinary skill in the art to divide the bonded to form laser devices first includes first light emitting element having first laser part and second light emitting element having second laser part because such process is required depending which wavelength of laser light is needed based on type of storage media devices

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 15-21 of copending Application No. 10/743,944. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the instant claims encompassed by the scope of the application claims, which further comprises etch stop layer in addition to nitride semiconductor based laser formed sapphire and III-V semiconductor based laser on GaAs and bonding and cleaving.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art teaches multiwavelength laser arrays through bonding and cleaving techniques.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Savitri Mulpuri whose telephone number is %71-272-1677. The examiner can normally be reached on Mon-Fri from 8 a.m. to 4.30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt, can be reached on 571-272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Savitri Mulpuri  
Primary Examiner  
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